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10/808,190

03/24/2004

Jung Pill Kim

2004P50589US/1331.140.101

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07/27/2005

Dicke, Billig & Czaja, PLLC
Fifth Street Towers, Suite 2250
100 South Fifth Street
Minneapolis, MN 55402

EXAMINER

WALLING, MEAGAN S

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,190

Applicant(s)

KIM, JUNG PILL

Examiner

Meagan S. Walling

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-16 and 22-24 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/24/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1 and 17 are objected to because of the following informalities: In the second to last line of claim 1, "larches" should be "latches." In the second to last line of claim 17, "form" should be "from." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Alidio et al. (US 5,351,013).

Regarding claim 17, Alidio et al. teaches sensing the temperature of the semiconductor device with a temperature sensing circuit and producing a corresponding sensed temperature voltage (column 1, lines 50-55); providing a first reference voltage (column 1, line 52); comparing the sensed temperature voltage with the first reference voltage to produce a first comparison result (column 1, lines 50-52); providing a second reference voltage (column 1, line 52); comparing the sensed temperature voltage with the second reference voltage to produce a second comparison result (column 1, lines 50-52); and determining from the first and second comparison results whether the sensed temperature voltage is within the first and second reference voltages (column 1, lines 50-55).

Regarding claim 18, Alidio et al. teaches that comparing the sensed temperature voltage with the first and second reference is done with a single comparator (column 1, line 49).

Allowable Subject Matter

3. Claims 6-16 and 22-24 are allowed.

The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 6 is the inclusion of the limitation of a comparator configured to receive a sense voltage that is indicative of a sensed temperature; a temperature reference circuit coupled to the comparator, the temperature reference network having a plurality of reference voltages including at least a first and a second reference voltage; and a control circuit coupled to the temperature reference circuit such that the control circuit controls alternately compares the plurality of reference voltages to the sense voltage, the control circuit further configured to receive a plurality of outputs from the comparator indicative of the comparisons of the plurality of the reference voltages to the sense voltage and wherein the control circuit determines when the sense voltage is between the first and the second reference voltages. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the allowance of claim 22 is the inclusion of the limitation of a comparator configured to receive a sense voltage that is indicative of a sensed temperature, switch means coupled to the first comparator for alternately comparing a first and second reference voltages with the sense voltage to produce first and second comparison results; latch means coupled to the comparator for holding first and second comparison results; and control

Art Unit: 2863

means for determining from the first and second comparison results whether the sense voltage is between first and second reference voltages. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

4. Claims 1-5 are objected to for the informality discussed above, but would be allowable if corrected.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication allowability of claim 1 is the inclusion of the limitation of a sensing device configured to hold a sensed voltage that varies with changes in temperature', a temperature reference circuit having a plurality of reference voltages', a switch circuit coupled to the temperature reference circuit', a comparator having a first input, a second input, and an output, the comparator configured to receive the sensed voltage from the sensing device on its first input and configured to receive the reference voltages on its second input, and configured to produce comparison signals at its output first and second latches configured to latch and hold the comparison signals from the comparators; and a control circuit coupled to switch circuit and to the first and second latches, wherein the control circuit controls the switch circuit such that reference voltages are selectively applied to the first input to the comparator and wherein the control circuit selectively controls the first and second latches to hold the comparison signals. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

Art Unit: 2863

5. Claims 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of claim 19 is the inclusion of the limitation of adjusting the first and second reference voltages to balance any input offset voltage from the comparator. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 21 is the inclusion of the limitation of providing additional reference temperatures when the sensed temperature voltage is not between the first and second reference voltages. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2863

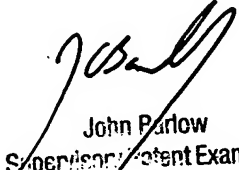
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S. Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msw


John Barlow
Supervisory Patent Examiner
Technology Center 2800